



# Spaceport News



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John F. Kennedy Space Center

## Mission update

### STS-106

ISS Flight 2A.2b

**Target launch date:** Sept. 8, 2000

**Launch window:** 10 minutes

**Target landing date:** Sept. 19, 2000

**Mission duration:** 11 days

**Orbiter:** Atlantis, OV-104

### STS-92

ISS - Z-1 Truss, PMA-3

**Target launch date:** Sept. 28, 2000

**Launch window:** To be determined

**Target landing date:** Oct. 9, 2000

**Mission duration:** 11 days

**Orbiter:** Discovery, OV-103

### STS-97

ISS - PV Module P6

**Target launch date:** Nov. 30, 2000

**Launch window:** To be determined

**Target landing date:** Dec. 9, 2000

**Mission duration:** 9 days

**Orbiter:** Endeavour, OV-105

## TDRS-H to enhance NASA communication, including Space Station

Tracking and Data Relay Satellite-H (TDRS-H) is scheduled to be launched from Cape Canaveral Air Force Station at 8:38 a.m. June 29 aboard an Atlas IIA/Centaur rocket. The launch window is 40 minutes.

The satellite is the first in the series of three satellites that will upgrade the constellation of six satellites currently being used by NASA's Space Network.

The network serves as the primary means of continuous voice, television and high-data-rate communication with the Space Shuttle. Dozens of scientific satellites in low-earth orbit also depend on the TDRS constellation.

The system, which includes two tracking stations at White Sands, N.M., will be used to communicate with the International Space Station in the future.

TDRS-H is one of three satellites, labeled H, I and J, being built in the Hughes Space and Communications Company Integrated Satellite Factory in El Segundo, Calif.

The latest TDRS uses an innovative springback antenna design. A pair of 15-foot-diameter, flexible mesh antenna reflectors fold up for launch, then spring back into their original cupped circular shape on orbit.

The new satellites will augment the TDRS system's existing S- and Ku-band frequencies by adding Ka-band capability.

When deployed with its solar arrays and antennas extended, TDRS-H will be about 68 feet long and 43 feet wide.



Artist rendition of TDRS-H on orbit.

Its weight on orbit will be 3,918 pounds.

The launch will be telecast live on NASA-TV beginning at about 7 a.m. EDT.

To get a look at the processing steps to get ready for the launch, see "Getting Ready. . .," page 3.

## NASA fire-fighting equipment put to test



When a fire on Kennedy Space Center grounds broke out near Launch Complex 39 Area, between S.R. 3 and the Indian River, NASA/KSC used its "Bambi" bucket -- a high-impact-resistant flexible plastic bucket -- to pick up water (as in photo at left) and drop it on the site of the fire (right). The bucket holds 324 gallons.

# 'Rudy' pumps up workers for KSC 2000

Against all odds on a gridiron in South Bend, Ind., Daniel "Rudy" Ruettinger, in 27 seconds, carved his name into history books as one of the most famous graduates of the University of Notre Dame.

Rudy, now a highly sought after motivational speaker, entertained an audience of Kennedy Space Center employees on Friday, May 26, at the NASA training auditorium. His unique, passionate and heartfelt style of communicating comes from his personal experiences of adversity and triumph and powerful "Yes I Can" message.

His inspirational talk focused on the changes occurring here at Kennedy Space Center and about the changes he made in his life that allowed him to execute a big dream.

After a five-minute introduction to his movie "Rudy," he ran on stage and the enthusiasm and powerful testimony kept flowing for the full hour and a half. "With change and 'dream power' you will meet people and do things you never dreamed you would do," Rudy said. "Surround yourself with the people that challenge you to change."

After the audience had the opportunity to go on the journey through Rudy's life and experience his unique dream and vision for success, they were treated to the last five minutes of his movie: The scene of a young man being carried off the football field at Notre Dame by his teammates for the only play he had made in his football career - a tackle. This was a perfect way to end an outstanding presentation.

As the audience turned to sports fans, they took Rudy up on his offer to sign the famous photo of his being carried off the field. Among the positive comments he offered individuals: "Imagine no rules or restrictions. Be the best you can be and it will elevate the standard. It is about the dream and the journey, not the tackle."

## Rudy's 10 points on winning at life

**Be the person you want to be.** Make the decision to take action and move closer to your dream. Create daily success habits and surround yourself with information that will empower and inspire you.



Daniel "Rudy" Ruettinger shakes the hand of NASA's Tom Overton after giving a rousing motivational talk in the NASA training auditorium. Rudy visited KSC to help get workers excited about taking on the new challenges and opportunities KSC 2000 will bring.

**Use anger in a positive way to get results.** Anger is a normal reaction. It's what you do with anger that makes a difference in your life ... direct your anger towards a goal ... use anger in a positive way to get results ... from anger comes determination ... comes triumph.

**It starts with a dream.** Visualize your Dream and make a commitment. It will change your life. A dream gives you the ability to determine your future.

**Eliminate the confusion.** Find mentors who encourage you. The right information will eliminate confusion. Visualize exactly what you want to be and focus on that. Believe in yourself and don't let anything stop you.

**The greater the struggle, the greater the victory.** Most people allow struggles and fear of failure to stop them. Struggle will prepare you for success. Without struggle there is no success.

**Follow your passion instead of the dollar.** There's nothing wrong with making

money ... but, it's important to focus on your passion instead of the dollar.

**Excuses will kill your dream.** What we're really talking about here is commitment. Until you make a commitment to your dream, it's not really a dream ... it's just another fantasy full of excuses.

**Prepare for your dream.** Preparation is what comes from struggle. Knowledge comes from preparation. These are the elements that pave the road to your dream. If we do not prepare we will not succeed.

**Focus on your dream and never quit.** It is always too soon to quit. If you quit, you can't succeed. By achieving your dream you will be an inspiration to others. You will set the example and make an enormous impact on the world.

**Always have a dream.** Dreams give us energy to go to new levels. Dreams change lives ... the power of life is in your dreams!

## Logo sought for Super Safety and Health Day 2000

Thanks to all those who participated in the slogan contest for Super Safety and Health Day 2000. More than 400 slogans were received.

The winning slogan for this year's contest was "Safety and Health ... a working relationship." Congratulations to David Koval of

Space Gateway Systems for submitting the winning slogan.

Second place was awarded to Steve Lewis of the Boeing Company.

Now, we need your ideas for a logo or poster design to go along with the slogan.

Prizes will be awarded for

first and second place.

### The rules for entering:

1. Entries must be submitted by June 30, 2000.
2. Your name, phone number and mail code must accompany each entry.
3. Entries must be relevant to and use the winning slogan.

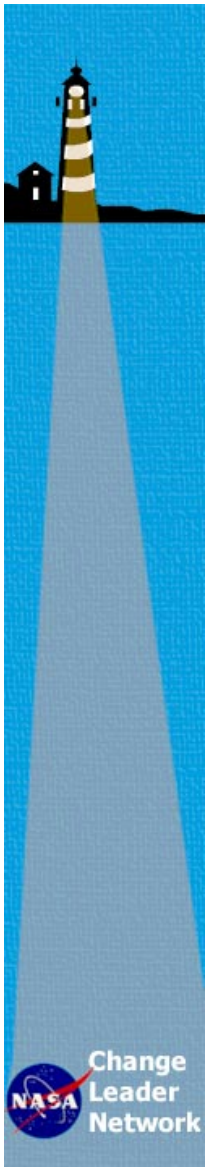
4. In the case of like entries, the earliest entry received will be considered.

5. The contest is open to badged personnel of KSC and the 45th Space Wing.

E-mail your entry to  
David.Board-1@ksc.nasa.gov .



# Covey's seven habits helpful during culture change



During this time of change due to KSC 2000, the Change Leader Network (CLN) thought it would be helpful to revisit Covey's *7 Habits of Highly Effective People*.

The network was established by Center Director Roy Bridges to facilitate culture change in association with our new strategic direction.

CLN hopes this summary will help you to remain focused on what's important, and that you will use it as a guide in making changes, and taking advantage of the opportunities that arise.

For those of you who have not taken the course yet, and as a refresher for those who have, it seems appropriate to provide a synopsis of this proven "tool" of career management and personal development.

Covey believes that in order to reinforce the principles of human effectiveness from an "inside-out" approach, we must commit to the 7 Habits. He defines a Habit as "the intersection of Knowledge, Skill, and Desire." In order to make something a habit that becomes an everyday part of our lives, we have to have all three.

To begin this quest for the "ultimate interpersonal effectiveness," we must make a paradigm shift and start with the inside part of ourselves, analyzing our character and our motives.

Covey encourages us to examine our perceptions of how things should be and test them against reality, be open to others' perspectives, and try to gain an objective view of the larger picture.

Habits 1, 2, and 3 deal with self-mastery and are referred to by Covey as "Private Victories," as they move a person from dependence to independence and are the essence of character growth.

We must become independent before we can fully participate in effective interdependence — the ultimate goal.

Let's begin by exploring Habit 1 — *Be Proactive*:

Proactivity is defined as "the power, freedom, and ability to choose responses to whatever happens to us, based

"Proactivity is defined as 'the power, freedom, and ability to choose responses to whatever happens to us, based on our values.'"

— STEVEN COVEY,

7 HABITS OF HIGHLY EFFECTIVE PEOPLE

on our values."

We can gain control over our circumstances if we use strong values as a guide and an anchor. When we are proactive, we recognize that the choices we make are ultimately our responsibility, and we do not blame people or circumstances for what happens to us, who we are, what we have, and what we do.

Proactivity is an internal strength, not aggressiveness. It is the combination of integrity and the simple commitment to value or principle. We develop our proactivity in our ordinary day-to-day activities where our values are called into question. How we respond to events, whether they are simple annoyances or real crises, forces us to examine our values.

Proactive people focus on the things they can do something about. We change negative patterns of behavior by being a transition person, proactive in our efforts to bring about change in a positive direction. We have the freedom to choose. Our circumstances are what we make of them. If life takes a proactive person down a path he does not want to go, he will look around and try to view this new place as fascinating as the one he left behind.

Stephen Covey suggests that for 30 days we practice being a "light, not a judge." Being a light means being an example, a model. Being a judge means being a critic, a faultfinder. In our everyday handling of traffic, insensitive supervisors, or late employees, we can determine where our energies are focused and how effective we are. No blaming, accusing — just work on YOU.

Next issue we will explore more of the 7 Habits.

## Getting ready for TDRS and getting TDRS ready for launch



Cape Canaveral Air Force Station begins building the Atlas IIA/Centaur rocket that will propel the TDRS satellite into space. On the far left, the Atlas arrives at Launch Pad 36A where it will be raised to vertical and lifted up the gantry. The middle photo shows the Centaur upper stage being hoisted up the gantry to be mated with the Atlas. At right, the TDRS is moved to a mating adapter in the Spacecraft Assembly and Encapsulation Facility (SAEF-2). At right and left of the TDRS are the fairing which will encapsulate the satellite for launch.

# Abramson shares new KSC Visitor Complex policies



**By Rick Abramson**  
**President and COO,**  
**Delaware North Parks Services of**  
**Spaceport, Inc.**

Kennedy Space Center Visitor Complex recently completed a five-year \$130-million redevelopment, which included the construction of the award-winning Apollo/Saturn V Center, acquisition of a new bus fleet, redevelopment of our front entryway, addition of the new Astronaut Encounter program and many other great new buildings and exhibits. Virtually every component of the visitor program has been rehabilitated, improved or built anew.

These improvements go beyond infrastructure. They include new guest service programs, Americans with Disabilities Act accessibility initiatives, and education programs such as day camps, school field trip programs and scouting programs. What we have today is in essence a brand new facility.

This redevelopment was achieved through Delaware North Parks Services investments, a large loan through Spaceport Florida Authority and earned revenues. Of course, KSCVC receives no appropriated funds for its growth or operation.

These improvements have boosted attendance 35 percent since 1994 and have allowed us to tell the NASA story in a much more compelling manner. However, until recently, no significant funds were available for continued development, critical to the KSCVC mission: To tell the NASA story and inspire all people to support the exploration of space.

Without continued major program and exhibit growth, visitorship will fall. This is something we experienced between 1990 and 1994 when we lost a million annual visitors and with them, the where-with-all to build new exhibits, to offer a high level of guest service, to advertise and attract people to the Space Coast - or even the funds to maintain our artifacts.

Do you remember the Saturn V rocket five years ago, resting in front of the VAB rusting, with birds' nests, beehives, even a small

tree growing out of it? We've vowed never to allow this sacrilege to occur again.

To this end, KSCVC has simplified its ticket structure to a one-price, all-inclusive admission applicable to all guests, \$24 adults and \$15 children 3-11. A \$10 limited admission is also available until the end of the year. This new ticket structure generates additional revenues that, by contract with NASA, are dedicated to capital funds for future development.

Since Kennedy Space Center Visitor Complex receives no taxpayer support, these funds are critical to the continued growth of the visitor program, allowing the NASA story to be told in an ever more compelling manner with new exhibits and attractions that will "inspire all people to support the exploration of space."

This said, the continued support of our local community, especially our "immediate family" here at KSC, is very important to the visitor program. To this end, we are offering a number of special programs for KSC badged employees and Brevard residents:

## Free Limited Admission

\* Permanently badged KSC civil service and contractor employees as well as civil service NASA retirees receive free limited admission to the Visitor Complex. Limited admission includes access to KSCVC's outdoor attractions and selected exhibits.

\* This benefit is also extended to NASA employees of other field centers and Headquarters.

\* To take advantage of this offer, show your badge at any KSCVC ticket window.

## Discounted One-Day Admission

\* KSC, Patrick Air Force Base and Cape Canaveral Air Force Station employees and their families can also purchase substantially discounted, full-admission KSCVC tickets at any NASA Exchange store. These tickets are available for \$16.70 for adults and \$13 for children.

## Discounted 12-Month Pass

\* The Visitor Complex offers a 12-

Month Pass for permanently badged KSC civil service and contractor employees. A two-month pass to the Visitor Complex can be purchased for the price of a one-day admission of \$24.

\* Badged employees' families can take advantage of the Brevard Resident 12-Month Pass Promotion. From now until Labor Day, Sept. 4, 2000, Brevard County residents can purchase a 12-month pass to Kennedy Space Center Visitor Complex at a reduced rate of \$36 adults and \$22.50 children ages 3-11. (This pass regularly priced at \$59.95 adults and \$39.95 children.)

\* All Pass Members receive a \$3.50 discount for friends and family, up to six guests per visit.

\* 12-Month Passes and Pass Member discounts are available at any KSCVC ticket window.

## Shoppers Pass

\* For those non-badged individuals who enjoy utilizing the Visitor Complex's various shops and restaurants or viewing the Astronaut Memorial and the Space Walk of Honor, a shoppers pass can be acquired by leaving a \$10 deposit at a ticket window (the price of a Limited Admission ticket). The deposit will be refunded as long as the guest returns within approximately 90 minutes.

\* The shoppers pass is available at any KSCVC ticket window.

## Salute to Brevard Weekend

\* In conjunction with NASA's October anniversary, KSCVC will throw its gates open to Brevard residents for the weekend each year.

\* This year's Salute to Brevard Weekend dates will be announced in the next few months.

We hope this answers any questions you might have had. If not, KSCVC representatives soon will be conducting a brief presentation followed by a question and answer session at the NASA Training Auditorium. The dates and time will be announced in *Countdown* and the *10 O'clock News*. Your support is important to the visitor program.



Visitors travel into the future of space exploration at a new Visitor Complex exhibit.





A range of new exhibits featured at the Kennedy Space Center Visitor Complex is designed to help tell the NASA story: Guests, at left, discover the beginnings of the space program through Early Space Exploration. The Mercury and Gemini programs are highlighted in this exhibit. Pictured is Mercury Mission Control. Children, above, get to touch a real piece of Mars in Exploration in the New Millennium. Yet a third new exhibit is Astronaut Encounter. Guests come face-to-face with an astronaut during the half-hour show. Pictured below is Rick Searfoss sharing his experiences during an "encounter."

## Visitor Complex features variety of new exhibits

Kennedy Space Center employees who haven't recently visited the KSC Visitor Complex may not be aware of the range of new facilities and interactive space exhibits featured.

Among the newest additions are the Astronaut Encounter show, the Dr. Kurt H. Debus Conference Facility, and the Early Space Exploration and Exploration in the New Millennium exhibits.

Astronaut Encounter gives guests the opportunity to meet an astronaut every day of the year. The show, designed to inspire children to study, work hard and strive for excellence, is held at various times throughout the day. A schedule of astronaut appearances is available at [www.KennedySpaceCenter.com](http://www.KennedySpaceCenter.com).

The new Dr. Kurt H. Debus Conference Facility features 5,800 square feet of meeting and banquet space surrounded by a glass wall allowing a view of the Visitor Complex's Rocket Garden. The facility seats approximately 400 people banquet style and 700 standing. It features a full chef's kitchen and audio/visual and computer equipment. The rotunda of the building leads to the Early Space Exploration walk-through exhibit.

The exhibit provides visitors with a comprehensive history of key missions that provided the foundation for our current space program. The exhibit's Hall of Discovery



contains various exhibits of key figures who paved the way for early rocketry.

The focal point of the exhibit is the Mercury Mission Control Room containing the actual Mercury Mission Control consoles and components from which all of America's first eight manned missions were monitored. Visitors can view the room from an observation deck containing monitors that feature recent interviews with individuals that worked in Mercury Mission Control as well as video of actual missions.

From here, visitors enter the Hall of History containing authentic Mercury and Gemini spacecraft. The unmanned Mercury capsule, launched to space during the test phase of the Mercury program, marks one of the nation's earliest involvements in the space race.

The Exploration in the New Millennium Exhibit takes visitors on a journey from the Viking's discoveries of Greenland and Iceland to the Mars Viking Lander, the first probe to land on another planet in 1976.

During their tour of the exhibit, visitors are able to see and touch a piece of Mars, which fell to Earth as a meteorite. They can also sign their electronic signature, which will be submitted for travel on a future Mars probe.

A "Kids Space" section of the exhibit features a video of "Steve and Blue" from Nickelodeon's preschool series *Blues Clues*.

The final portion of the exhibit is dedicated to exploration beyond the Solar System. Guests witness Hubble Space Telescope's famous images of the birth and death of stars.



# Liberty Bell 7 kicks off tour at Visitor Complex

The national Discovery Channel tour of a 6,000-square-foot Liberty Bell 7 exhibit will begin its three-year journey on Saturday, June 17, at the Kennedy Space Center Visitor Complex.

The new interactive exhibit features the 1961 Mercury Space Capsule recovered in July 1999 during a Discovery Channel expedition.

Liberty Bell 7 was flown by astronaut Virgil "Gus" Grissom on the second manned space mission for the United States. The suborbital mission lasted 15 minutes and 37 seconds.

The capsule sank to the floor of the Atlantic Ocean after the mission and lay undetected for four decades.

Now the newly restored capsule will travel with the Discovery Channel-sponsored exhibit to science centers and museums in 12 cities throughout the United States.

The exhibit is designed to take visitors on a virtual ride with Grissom 118 miles into space and then 3 miles below the ocean's surface. Visitors will be engaged in astronaut training, spacecraft technology and launch sequences circa 1961.

Visitors will also be fast-forwarded into 1999 to follow the exciting events surrounding the

rescue of the spacecraft and personal triumph by deep-sea search and recovery.

The expedition first left Cape Canaveral on April 16, 1999, to search for the capsule. After searching a 24-mile area 300 miles off the coast of Florida with a side-scan sonar, the crew mapped 88 targets. The search was then narrowed to 18 targets.

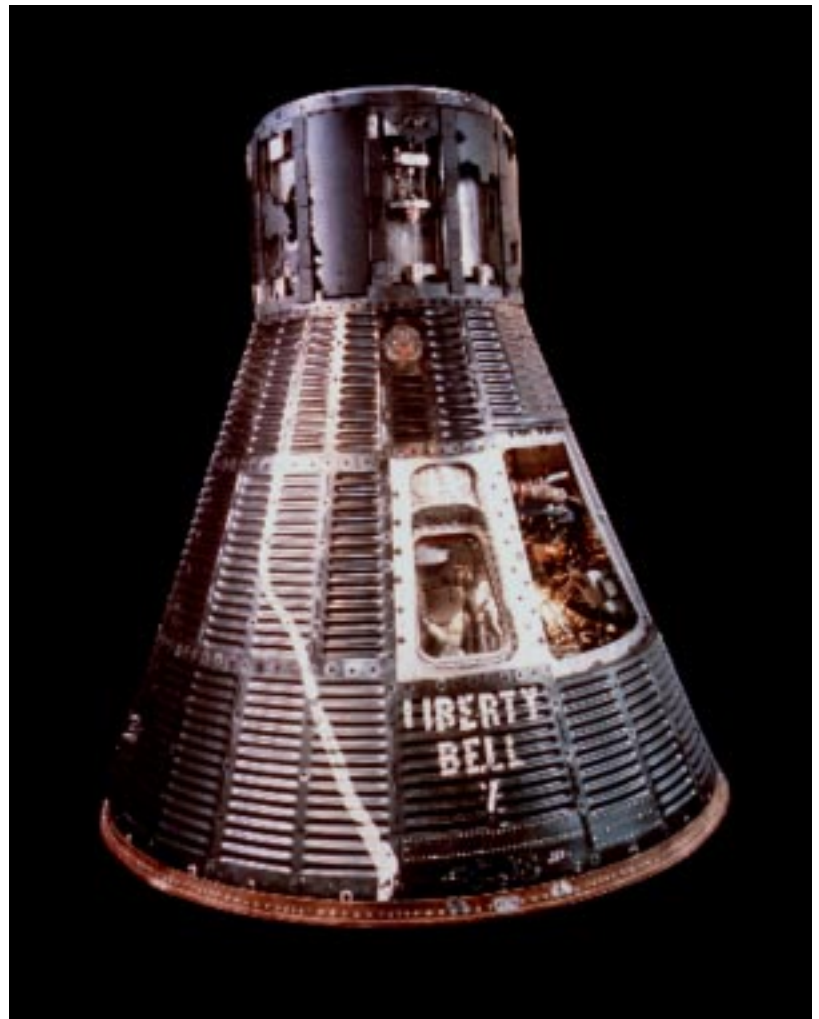
The first target dive was on the contained capsule. Unfortunately, the tether used on the remote operated vehicle (ROV) being used for the dive was severed during rough sea conditions, ending the first expedition.

A new ROV was built, and a second expedition retrieved the Liberty Bell 7 on July 1, exactly 38 years after its flight into space.

Once raised to the surface, the Liberty Bell 7 capsule was placed in a custom-built steel transport container and sent to the Kansas Cosmosphere and Space Center in Hutchinson, Kan., for restoration and preservation.

The exhibit will be shown at the Visitor Complex through Sept. 17, then travel to museums and science centers in Indianapolis; Jersey City, N.J.; St. Louis; San Jose, Calif.; Boston; Oklahoma City; and Los Angeles.

For more information, visit [www.discovery.com](http://www.discovery.com).



Children, at left, try out an interactive display in the Liberty Bell 7 exhibit, which will tour 12 U.S. locations, beginning with the Kennedy Space Center Visitor Complex. The exhibit will be shown there from June 17 through Sept. 17. The recovered and restored capsule that will be on display is pictured above. A four-person crew cleaned and restored about 26,000 parts from the spacecraft after it was retrieved on July 1, 1999. Virgil "Gus" Grissom, at top, prepares to enter the Liberty Bell 7 on that day in 1961 for the United States' second manned space mission.





# VAB Safe Haven modification tested for fit



As part of the Safe Haven project, a once-buried portion of the Apollo-era crawlerway was restored to enable rollout of a Shuttle stack from the Vehicle Assembly Building (VAB) into high bay 2. Also, significant internal modifications to high bays 2 and 4 were made. Transferring a stack into high bay 2 will require the crawler transporter to make a turn around the north side of the VAB. The above photo (left) shows the movement of a crawler transporter, during a test of the roadway, as it moved from the east side of the VAB toward the opening of high bay 2. The photo above right shows a mobile launcher platform atop a crawler transporter moving along the crawlerway into high bay 2. The aerial photo (below) of the Launch Complex 39 area shows the VAB and the newly constructed curved crawlerway on the near, west, side. The primary goal of the Safe Haven construction project was to strengthen readiness for hurricane season by expanding the VAB's storage capacity. The new area will allow NASA to pre-assemble stacks and still have room in the VAB to pull a Shuttle back from the pad if severe weather threatens. Shuttle managers are considering another fit check in August using a complete Shuttle stack.





## High over KSC

A group of Kennedy Space Center employees recently teamed up for an "All KSC" freefall jump from Skydive Space Center at Dunn Airpark in Titusville. Jim Bolton of United Space Alliance organized the 13,500-foot-high jump, which was photographed by Dean O'Flaherty. At left, the skydivers exit the aircraft and then, below, maneuver themselves into a formation. Although the KSC team spends their workdays processing and launching Shuttle payloads, on a clear day in their off-duty time, they can be found back in the sky enjoying their unique view of the Cape.



## NASA teams with Dreamtime

NASA and Dreamtime Holdings, Inc., have formed a partnership that will deliver the adventures of the space frontier through the new technologies of the digital frontier.

The unprecedented agreement includes provisions to provide, for the first time, high-definition television coverage of astronaut activities aboard the International Space Station and on Space Shuttle missions.

It will also create an easily accessible, Web-searchable,

digital archive of the best of NASA's space imagery.

The NASA-Dreamtime partnership will provide unprecedented public access to space exploration by creating a mainstream state-of-the-art multimedia portal, [www.Deamtime.com](http://www.Deamtime.com), that will open the door to thousands of images, sounds, documents, blueprints and plans from NASA's currently underused archives.

Rollout of the in-depth portal site will begin within the next several months.



John F. Kennedy Space Center

## Spaceport News

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